IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

GENAPP.002RA		(020728.0101)	PATENT
Applicant	:	Gopal	) Group Art Unit: 1636
Reissue Appl.	:	09/404,979	)
Filed	:	September 22, 1999	) **Declaration under**
			) **Under 37 C.F.R. § 1.131**
For	:	PEPTIDE-MEDIATED GENE TRANSFER	)
Examiner: McKelvey, T.			)

Honorable Commissioner for Patents
Washington, D.C. 20231

DECLARATION UNDER 37 C.F.R. § 1.131

Dear Sir:

I, T. Venkat Gopal, Ph.D., hereby declare that:

1. I am the named inventor of the above-identified reissue application number 09/404,979.

2. I am the original, first, and sole inventor of the subject matter disclosed and claimed in the pending reissue application.

3. I understand that a rejection was made in the pending reissue application based on U.S. Patent No. 5,994,109 (filed June 3, 1995) and, alternatively, Smith et al. WIPO Application No. WO 93 18759 (published September 30, 1993).

4. As shown by the facts discussed in this declaration and the accompanying exhibits, the subject matter of the claims rejected in the pending reissue application was used for its intended purpose prior to the date September 30, 1993, the international application date of the Smith et al. reference.

5. All of the work discussed below was performed in the United States by, or on behalf of, myself prior to September 30, 1993.

6. Prior to September 30, 1993, a peptide was manufactured on my behalf by STAR Biochemicals, Inc., 20916 Higgins Court, Torrance, California, as I stated previously in my 131 declaration of June 16, 2003. The sequence of this synthetic peptide is nearly identical to the example sequence (Seq. ID No. 56) used in the original patent of the pending reissue application (column 10 of U.S. Patent No. 5,670,347). Attached as Exhibit 1 is a true and correct photocopy of an invoice from STAR Biochemicals for the production of the synthetic peptide, which has had the dates contained on the invoice redacted.

7. Prior to September 30, 1993, STAR Biochemicals provided a Certificate of Analysis demonstrating an amino acid analysis of the manufactured synthetic peptide, attached hereto as Exhibit 2. This analysis was consistent with that expected for the requested sequence.

8. Prior to September 30, 1993, I used the synthetic peptide manufactured by STAR Biochemicals to transfect several structural DNA sequences into mammalian cells. Attached as Exhibit 3 is a true and correct photocopy of pages from my laboratory notebook which has had dates contained on the invoice redacted and the letters A through F replacing certain redacted dates. The entries were made prior to September 30, 1993, documenting experiments performed with the synthetic peptide in the United States. The synthetic peptide manufactured by STAR Biochemicals, Inc. is referred to as "Expression-1" in the exhibit.

9. I understand that several claims in the pending reissue application still stand rejected because the Examiner of this application believes my declaration of 6/16/2003 did not show a reduction to practice of the invention as claimed. Therefore I have collected the attached

pages from my laboratory notebook that demonstrates additional proof of prior possession of the subject matter in the rejected claims prior to September 30, 1993.

10. The subject matter of claim 9 comprises the use of certain DNA structural sequences complexed with "Expression-1" (the synthetic peptide manufactured by STAR Biochemicals, Inc.). Specifically, wherein the DNA structural sequences comprises (a) a segment coding for SV40 large T antigen or polyoma large T antigen and (b) a transcription factor gene. At date A, which is prior to September 30, 1993, cells were transfected with Expression-1 complexed with the polyoma large T antigen encoding DNA sequence referred to as "LLT" in the exhibit and the E2F transcription factor-encoding DNA sequence referred to as "LE2F-1" in the exhibit. At date B, which is prior to September 30, 1993, I concluded from the results of the experiment that the invention worked for its intended purpose.

11. The subject matter of claims 10 and 11 comprise the use of DNA structural sequences which are oncogenes. As stated in the specification of my application, the polyoma large T antigen, the adenovirus E1A gene, and the SV40 large T antigen are all well-known oncogenes. At date A, which is prior to September 30, 1993, cells were transfected with Expression-1 complexed with the polyoma large T antigen encoding DNA sequence referred to as "LLT" in the exhibit. At date B, which is prior to September 30, 1993, I concluded that the invention worked for its intended purpose. At date C, which is prior to September 30, 1993, cells were transfected with Expression-1 complexed with the adenovirus E1A gene referred to as "LE1A" in the exhibit and with a DNA sequence encoding the SV40 large T antigen referred to as "LT1x" in the exhibit. At date D, which is prior to September 30, 1993, I concluded from the results of an ELISA assay for the expression of ELAM-1 and VCAM-1, that the invention worked for its intended purpose.

12. The subject matter of claim 12 comprises the use of certain DNA structural sequences complexed with "Expression-1" that are important for DNA synthesis. Illustrative of this is the E2F transcription factor-encoding DNA sequence referred to as "LE2F-1" in the exhibit. At date A, which is prior to September 30, 1993, I transfected cells with the E2F transcription factor encoding DNA sequence referred to as "LE2F-1" in the exhibit. At date B, which is prior to September 30, 1993, I concluded that the invention worked for its intended purpose.

13. The subject matter of claim 13 comprises the process for producing a transformed cell line using a structural sequence mentioned in claim 12. The notebook entry starting at date A illustrates the successful use of such a procedure using the E2F transcription factor-encoding DNA sequence referred to as "LE2F-1" in the exhibit. In the comment for date B, I indicated the process comprising use of LE2F-1 "give viable cells with extended life compared to untransfected cells."

14. The subject matter of claim 14 comprises the process for producing a transformed cell line using the Expression-1 vector and DNA structural sequence comprising an oncogene. The oncogene LE1A (a plasmid coding for the adenovirus E1A gene) was co-transfected with either LTlx (SV40 large T antigen) or LLT (polyoma large T antigen) at date E in the exhibit. The process for transfecting the cells is described in the notebook entry, which was written prior to September 30, 1993. At date F, which is prior to September 30, 1993, I conclude that the invention works for its intended purpose. I commented that "Both transforming genes Tlx, LT with E1A can generate extended life cells," demonstrating the success of a process described at date E.

15. Therefore, I believe that the invention of the rejected claims was reduced to practice in the United States prior to the reference dates cited by the Examiner, i.e., before June 3, 1995 in case of U.S. Patent No. 5,994,109 and before September 30, 1993 in the case of WIPO Application No. WO 93/18759.

16. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful, false statements are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful, false statements may jeopardize the validity of the application or patent issuing therefrom.

Respectfully submitted,

Dated: 3/8/04

By: T. Venkat Gopal

T. Venkat Gopal